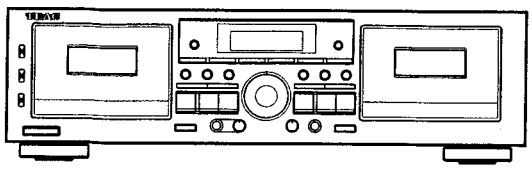
TEAC



TEAC -00404

# SERVICE MANUAL

# W-860R

## Double Cassette Deck

## CONTENTS


1 SPECIFICATIONS ..... 2
2 ADJUSTMENT AND CHECKS ..... 3
3 EXPLODED VIEWS AND PARTS LIST ..... 8
4 PC BOARDS AND PARTS LIST ..... 12


### NOTES

- PC boards shown are viewed from parts side.
- Parts marked with * require longer delivery time.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [ ] mark can be used only with the version designated.
  [J]: JAPAN [US]:U.S.A. [C]:CANADA [SA]:SOUTH AMERICA
  [GE]:GENERAL EXPORT [E]:EUROPE [UK]:U.K. [A]:AUSTRALIA
  W-860R(N):Gold Version W-860R(B):Black Version

## 目 次


1 仕 様 ..... 2
2 調整と確認 ..... 3
3 分解図とパーツリスト ..... 8
4 基板図とパーツリスト ..... 12


### 注 意

- プリント基板図は部品面を示しています。
- *印の部品は納期が若干かかります。
  あらかじめご了承ください。
- 分解図に部番のない部品および品番のない部品は供給できません。
- 標準の抵抗、コンデンサーは省略してあります。
  回路図を参照してください。
- ⚠印は安全重要部品です。
  交換する時は必ず指定の部品を使用してください。
- 仕向先
  [J]:JAPAN [US]:U.S.A. [C]:CANADA [SA]:SOUTH AMERICA
  [GE]:GENERAL EXPORT [E]:EUROPE [UK]:U.K. [A]:AUSTRALIA
  W-860R(N):Gold Version W-860R(B):Black Version


Effective : April, 1999

D00484800A


404

# 1 SPECIFICATIONS
## 仕 様

| | |
|---|---|
| **Track System:** | 4-track, 2-channel stereo |
| **Heads:** | Deck Ⅰ; 1 Erase and 1 Record/Playback (Rotating)<br>Deck Ⅱ; 1 Erase and 1 Record/Playback (Rotating) |
| **Type of Tape:** | Cassette tape C-60 and C-90 (Philips type) |
| **Tape Speeds:** | 4.76 cm/sec (1-7/8 ips)<br>9.5 cm/sec (3-3/4 ips) (High speed dubbing) |
| **Pitch Control:** | ±10% |
| **Motors:** | 2 DC servo motors (1 ea. deck) |
| **Wow and Flutter:** | 0.09 % (WRMS) |
| **Frequency response (Overall, -20 dB):** | 25–19,000 Hz, Metal tape<br>25–18,000 Hz, $CrO_2$ tape<br>25–17,000 Hz, Normal tape |
| **Signal-to-Noise Ratio (Overall):** | 59 dB (NR off, 3 % THD Level, Weighted)<br>69 dB (Dolby B NR on, over 5 kHz)<br>79 dB (Dolby C NR on, over 1 kHz) |
| **Fast Winding Time:** | Approximately 110 seconds for C-60 |
| **Inputs:** | Line: 97 mV, 50 k ohms<br>Mic: 0.38 mV, 200 ohms |
| **Outputs:** | Line: 0.52 V for load impedance of 50 k ohms or more<br>Headphones: 1 mW/8 ohms |
| **Power Requirements:** | 120/230 V AC, 50-60 Hz (General Export model)<br>120 V AC, 60 Hz (U.S.A./Canada model)<br>230 V AC, 50 Hz (Europe model)<br>240 V AC, 50 Hz (Australia model) |
| **Power Consumption:** | 22 W |
| **Dimensions (W x H x D):** | 435 x 127 x 292 mm (17-1/8" x 4-15/16" x 11-1/2") |
| **Weight (net):** | 4.0 kg (8-13/16 lbs.) |
| **Standard Accessories:** | Remote control unit (RC-615) x 1 (General Export/Europe/UK/Australia model), Battery (SUM-3, "AA", "R6" type) x 2 (General Export/Europe/UK/Australia model), Input-output connection cord x 1 |

| | |
|---|---|
| トラック形式 | 4トラック2チャンネル ステレオ |
| ヘッド構成 | Deck Ⅰ：録音/再生ヘッド×1<br>消去ヘッド×1<br>Deck Ⅱ：録音/再生ヘッド×1<br>消去ヘッド×1 |
| 使用テープ | C-60, C-90タイプ カセットテープ |
| テープ速度 | 4.8cm/sec, 9.5cm/sec (倍速ダビング時) |
| モーター | Deck Ⅰ：DCサーボモーター×1<br>Deck Ⅱ：DCサーボモーター×1 |
| ワウ・フラッター | 0.09% (W.RMS)<br>±0.1% (W.Peak)* |
| 周波数特性(総合) | メタル：<br>25～20,000Hz (30～19,000Hz±3dB*)<br>クローム：<br>25～19,000Hz (30～18,000Hz±3dB*)<br>ノーマル：<br>25～18,000Hz (30～17,000Hz±3dB*) |
| SN比(総合) | 58dB (NR OFF, 規定録音レベル) *<br>69dB (ドルビーB NR ON, CCIR-ARM)<br>79dB (ドルビーC NR ON, CCIR-ARM) |
| 早巻時間 | 約110秒 (C-60テープ) |
| 入力 | ライン：100mV<br>(入力インピーダンス50kΩ)<br>マイク：0.38mV<br>(入力インピーダンス200Ω) |
| 出力 | ライン：0.46V<br>(負荷インピーダンス50kΩ以上)<br>ヘッドフォン：0.95mW / 8Ω |
| 電源 | 100V AC, 50－60Hz |
| 消費電力 | 22W |
| 外形寸法 | 435×127×292mm (W×H×D) |
| 質量 | 4.0kg |
| 付属品 | リモートコントロールユニット(RC-615)×1, 単3形乾電池×2, 入出力コード2本(1組), 取扱説明書, 保証書 |

- この仕様は特に表示した項目を除き、当社基準テープを使用して測定したものです。
- 仕様および外観は、改善のため予告なく変更することがあります。
- *印は、日本電子機械工業会 (EIAJ CP-2311) 規格に定められた測定法によるものです。

- Improvements may result in specification or feature changing without notice.

Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

"DOLBY", the double-D symbol DD and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

ドルビーノイズリダクション及びHX PROヘッドルームエクステンションはドルビーラボラトリーズライセンシングコーポレーションからの実施権に基づき製造されています. HX PROはバングアンドオルフセンの考案です.
ドルビー, DOLBY, ダブルD記号DD及びHX PROはドルビーラボラトリーズライセンシングコーポレーションの登録商標です.

# 2 ADJUSTMENTS AND CHECKS
## 調整と確認

## 2-1 MECHANICAL ADJUSTMENT

### 2-1-1 Wow and flutter (playback method)

In both FWD and REV play modes, these measurements should be made at the beginning, middle, and the end of the tape.

1. Connect a wow-and-flutter meter to the LINE OUT.
2. Load and play a TEAC MTT-111N test tape.
3. Check that the readings on the wow-and-flutter meter is within 0.19% (JIS WTD).

### 2-1-2 Tape speed

1. Connect a frequency counter to the LINE OUT.
2. Load a TEAC MTT-111N test tape and play in FWD direction the beginning of the test tape.
3. Adjust each variable resistor to get the following values.

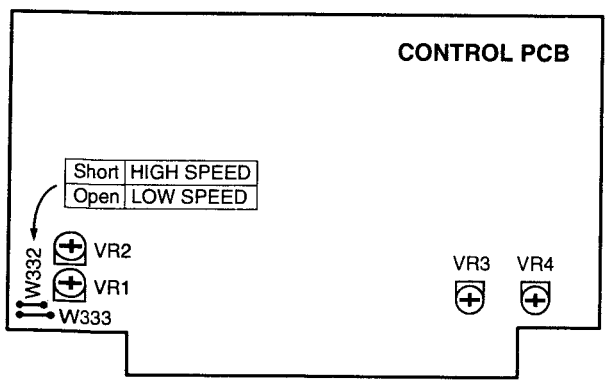



Fig. 2-1

4. In play mode, check that the following values are obtained at the beginning and end of the tape.
   Speed drifting: Within 120Hz (HIGH speed)
   Within 60Hz (LOW speed)

### 2-1-3 Reel torque

1. Load the cassette torque meter on the deck and read the pointer indication on the dial scale for each tape transport operation. The measured torque should be within the following specified values.
   Take-up: 30 to 70g-cm
   Supply: 1.5 to 6g-cm
   FF/REW: 70 to 150g-cm

**Torque meter**
MTT-8111W: Forward torque & back tension
MTT-8121W: Reverse torque & back tension
MTT-8242: Fast forward & rewind static torque

## 2-1 機構部の調整

### 2-1-1 ワウ・フラッタ(再生法)

FWD, REV両方向でテープの巻始め、中間、巻終りを測定する。

1. LINE OUT端子にワウ・フラッタメーターを接続する。
2. テストテープMTT-111Nを再生する。
3. ワウ・フラッタ値が0.19% (JIS WTD) 以下であることを確認する。

### 2-1-2 テープスピード

1. LINE OUT端子に周波数カウンターを接続する。
2. テストテープMTT-111Nの巻始め部をFWD方向で再生する。
3. 周波数値が下表の範囲内になるよう、各調整VRを調整する。

| | Adjustment point 調整個所 | | Adjustment value 調整値 |
|---|---|---|---|
| REC/PLAY *I* | HIGH speed | VR2 | 6,000±30Hz |
| | LOW speed | VR1 | 3,000±20Hz |
| REC/PLAY *II* | HIGH speed | VR4 | 6,000±30Hz |
| | LOW speed | VR3 | 3,000±20Hz |

4. 巻始めから巻終りまで再生し、変動幅を確認する。
   変動幅：120Hz以内 (ハイスピード)
   60Hz以内 (ロースピード)

### 2-1-3 リールトルク

1. カセット型トルクメーターによる測定値が下記の範囲内であることを確認する。
   テイクアップトルク：30～70g-cm
   バックテンショントルク：1.5～6g-cm
   早送り/巻戻しトルク：70～150g-cm

**トルクメーター**
MTT-8111W：巻取りトルクとバックテンション (FWD用)
MTT-8121W：巻取りトルクとバックテンション (REV用)
MTT-8242　：早送り／巻戻しトルク

## 2-2 ELECTRICAL ADJUSTMENT

### 2-2-1 Precautions

- Before performing adjustments and checks clean and demagnetize the entire tape path.
- In general, adjustments and checks are made in the order of Lch then Rch. Double REF. Nos. indicate Lch/Rch. (Example; R11/R21)
- 0dB is referenced to 0.775V.
- The AC voltmeter used in the procedures must have an input impedance of 1MΩ or more.
- Unless specified otherwise, adjustments and checks are made in FWD direction.

## 2-2 アンプ部の調整

### 2-2-1 注意

- アンプ部の調整・確認の前に、テープ走行系の消磁と清掃を行なってください。
- 特に指定のない限り、調整はLch, Rchの順序で行なってください。尚、R11/R21のように記されている回路番号はLch/Rchを示します。
- 0dBは0.775Vです。
- 測定に使用するレベル計の入力インピーダンスは1MΩ以上のものを使用してください。
- 特に指定のない場合、調整および確認はFWD方向で行なってください。

### 2-2-2 Adjustment locations 調整個所

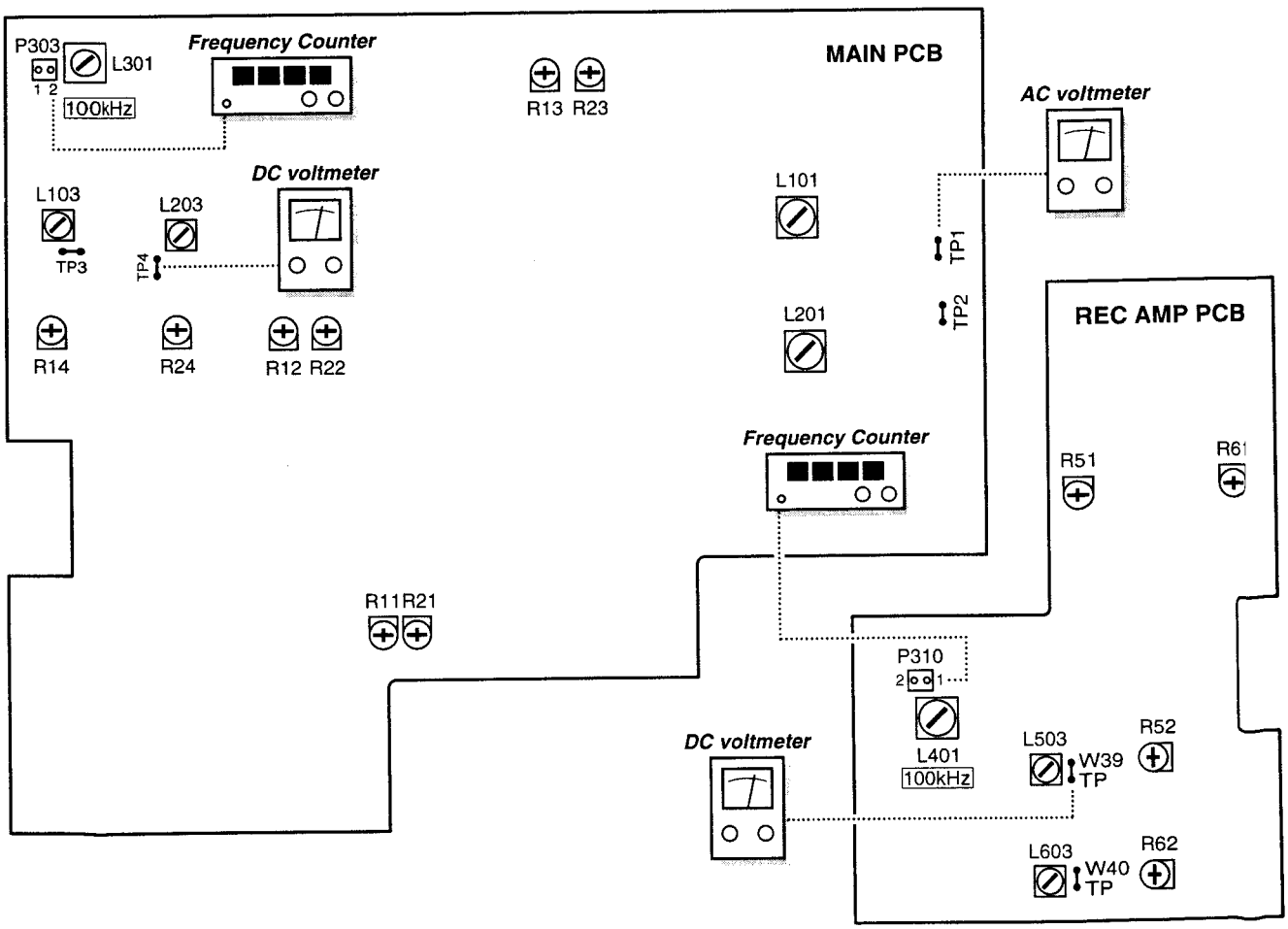
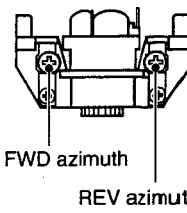
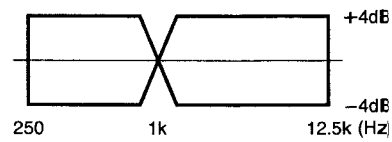



Fig. 2-2

## 2-2-3 Playback performance 再生系

**Deck settings:**
Mode: PLAY
DOLBY NR Switch: OFF

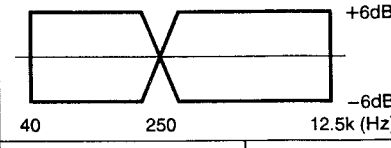
**TEAC test tapes:**
MTT-150C : For Dolby level calibration
MTT-25702 : For playback frequency response check NORMAL tape
MTT-5513 : For S/N check NORMAL tape

| ITEM 項目 | SETTING 設定 | INPUT SIGNAL 入力信号 | ADJUSTMENTS 調整個所 | MEASURING POINTS, RESULT 測定個所・調整値 | REMARKS 備考 |
|---|---|---|---|---|---|
| **1. Head azimuth adjustment** アジマス調整 | Connection:Fig. 2-4 Check and adjust in FWD, REV respectively FWD、REVそれぞれ調整・確認 | MTT-150C | Check | LINE OUT: Phase: within 45° 位相: 45°以内 (Fig. 2-5) |   |
| | | MTT-25702 (12.5kHz) | Azimuth screws アジマス調整ねじ | LINE OUT: Maximum output level at L & R-ch Lch、Rchとも出力最大 | |
| **2. DOLBY level** ドルビーレベル | Connection:Fig. 2-2 FWD PLAY | MTT-150C | R11/R21 | TP1/TP2: −6dB | REC/PLAY *I* |
| | | | R12/R22 | | REC/PLAY *II* |
| **3. Playback output level** 再生出力レベル | Connection:Fig. 2-3 FWD/REV PLAY | MTT-150C | Check | LINE OUT: −4.5±1dB | Ref. output level 基準出力レベル |
| **4. Meter level** メーターレベル | | MTT-150C | Check | LEVEL METER: ▯▯ mark±1dot | |
| **5. PHONES output level** PHONES 出力レベル | | MTT-150C | Check | PHONES: −19±3dB | 8Ω load 8Ω負荷 |
| **6. Playback frequency response** 再生周波数特性 | Connection:Fig. 2-3 | MTT-25702 | Check |   | |
| **7. Playback S/N ratio** 再生S/N比 | Connection:Fig. 2-3 | MTT-5513 Playback the leader tape portion リーダーテープ部を再生 | Check | 46dB min. | Ratio of ref. level to noise 基準出力レベルとノイズの比 |

## 2-2-4 Recording performance 録音系

**Deck settings:**
Mode: REC/PLAY
DOLBY NR Switch: OFF
REC LEVEL Control: Specified position (Item 8)

**TEAC recording test tapes:**
MTT-5513 : For NORMAL
MTT-5563 : For $CrO_2$
MTT-5572 : For METAL

| ITEM 項目 | SETTING 設定 | INPUT SIGNAL 入力信号 | ADJUSTMENTS 調整個所 | MEASURING POINTS, RESULT 測定個所・調整値 | REMARKS 備考 |
|---|---|---|---|---|---|
| **8. Specified LINE input level** ライン規定入力レベル | Connection:Fig. 2-3<br>Mode: REC | LINE IN:<br>400Hz/−9dB | REC LEVEL | LINE OUT:<br>−4.5dB | After adjusting, do not move (Specific position)<br>調整後は動かさないこと(規定位置) |
| **9. Bias osc frequency** バイアス発振周波数 | Connection:Fig. 2-2<br>TAPE: MTT-5513<br>Mode: REC | LINE IN:<br>No signal<br>無信号 | L301 | P303 Pin 2:<br>100kHz | REC/PLAY II |
| | | | L401 | P310 Pin 1:<br>100kHz | REC/PLAY I |
| **10. Step up coil** ステップアップコイル | Connection:Fig. 2-2<br>TAPE: MTT-5572<br>Mode: REC | LINE IN:<br>No signal<br>無信号 | L103/L203 | TP3/TP4:<br>Min. DC voltage<br>DC電圧最小 | REC/PLAY II |
| | | | L503/L603 | W39/W40:<br>Min. DC voltage<br>DC電圧最小 | REC/PLAY I |
| **11. Record bias** 録音バイアス | Connection:Fig. 2-3<br>TAPE: MTT-5513 | LINE IN:<br>250Hz/10kHz<br>−42dB | R14/R24 | LINE OUT:<br>Nearly equal level at both frequencies<br>両周波数の録再出力が同レベル(±0.5dB) | REC/PLAY II |
| | | | R52/R62 | | REC/PLAY I |
| **12. MPX filter** MPXフィルター | Connection:Fig. 2-3<br>Mode: REC | LINE IN:<br>19kHz/−12dB | L101/L201 | 30dB min. | Ratio of ref. level to signal<br>基準出力レベルに対する比 |
| **13. Record level** 録音レベル | Connection:Fig. 2-3<br>TAPE: MTT-5513 | LINE IN:<br>400Hz/−12dB | R13/R23 | LINE OUT:<br>−7.5dB | REC/PLAY II |
| | | | R51/R61 | | REC/PLAY I |
| | TAPE: MTT-5563<br>MTT-5572 | | Check | LINE OUT:<br>−7.5±1dB | |
| **14. Total harmonic distortion** 総合歪率 | Connection:Fig. 2-3<br>TAPE: MTT-5513<br>MTT-5563<br>MTT-5572 | LINE IN:<br>400Hz/−12dB | Check | NORMAL: 2.0% or less<br>$CrO_2$ : 2.5% or less<br>METAL: 3.0% or less | |
| **15. Overall frequency response** 録再周波数特性 | Connection:Fig. 2-3<br>TAPE: MTT-5513<br>MTT-5563<br>MTT-5572 | LINE IN:<br>40Hz–12.5kHz<br>−42dB | Check |  | |
| **16. Overall S/N ratio** 総合S/N比 | Connection:Fig. 2-3<br>TAPE: MTT-5513<br>MTT-5563<br>MTT-5572 | LINE IN:<br>No signal<br>無信号 | Check | NORMAL : 45dB min.<br>$CrO_2$ : 46dB min.<br>METAL : 46dB min. | Ratio of ref. level to noise<br>基準出力レベルとノイズの比 |

| ITEM<br>項目 | SETTING<br>設定 | INPUT SIGNAL<br>入力信号 | ADJUSTMENTS<br>調整個所 | MEASURING RESULT<br>調整値 | REMARKS<br>備考 |
|---|---|---|---|---|---|
| **17. Erase efficiency**<br>消去率 | Connection:Fig. 2-3<br>TAPE: MTT-5572<br>1kHz B.P.F in | LINE IN:<br>1kHz/+1dB | Check | 65dB min. | Ratio of the 1kHz recorded portion to the erased portion.<br>未消去部分と消去部分の比 |
| **18. REC MUTE function**<br>REC MUTE<br>効果 | Connection:Fig. 2-3<br>TAPE: MTT-5572<br>1kHz B.P.F in | LINE IN:<br>1kHz/+1dB | Check | 55dB min. | Ratio of the 1kHz recorded portion to the "REC MUTE" portion.<br>録音部分と "REC MUTE" 部分の比 |
| **19. Channel separation**<br>チャンネルセパレーション | Connection:Fig. 2-3<br>TAPE: MTT-5563<br>1kHz B.P.F in | LINE IN:<br>Lch 1kHz/<br>−9dB<br>Rch No signal<br>無信号 | Check | 35dB min. | Ratio of Lch (1kHz) to Rch (no signal).<br>Lch (1kHz)とRch (無信号) の比 |
| **20. Adjacent track crosstalk**<br>トラック間クロストーク | Connection:Fig. 2-3<br>TAPE: MTT-5572 | LINE IN:<br>Lch No signal<br>無信号<br>Rch 125Hz/<br>−9dB | Check | 40dB min. | Invert tape and play Rch track. Check leakage level against the output reference of previously recorded portion.<br>テープを反転して再生した時のRch出力レベルの比 |

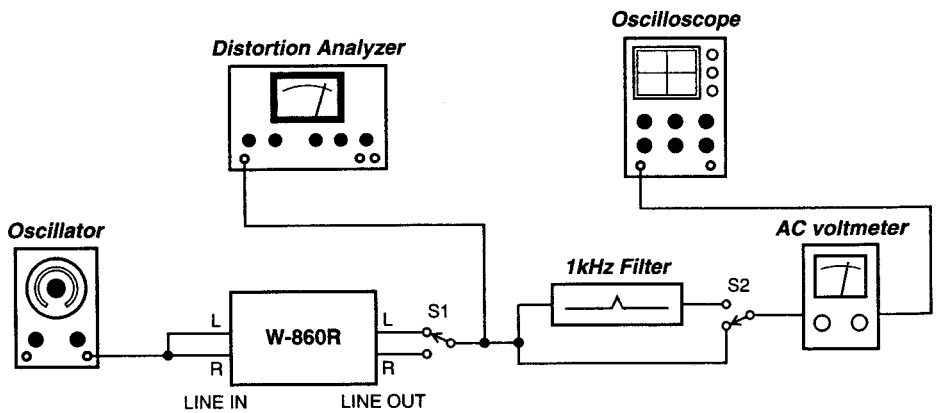



Fig. 2-3

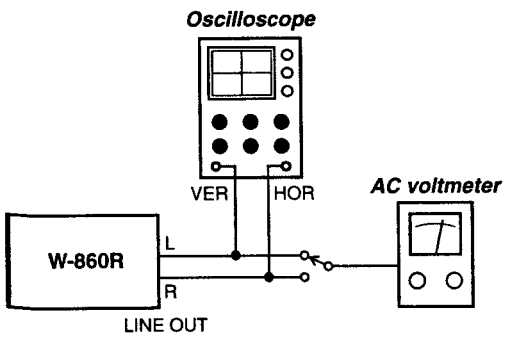



Fig. 2-4

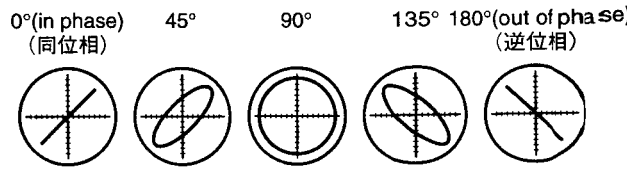
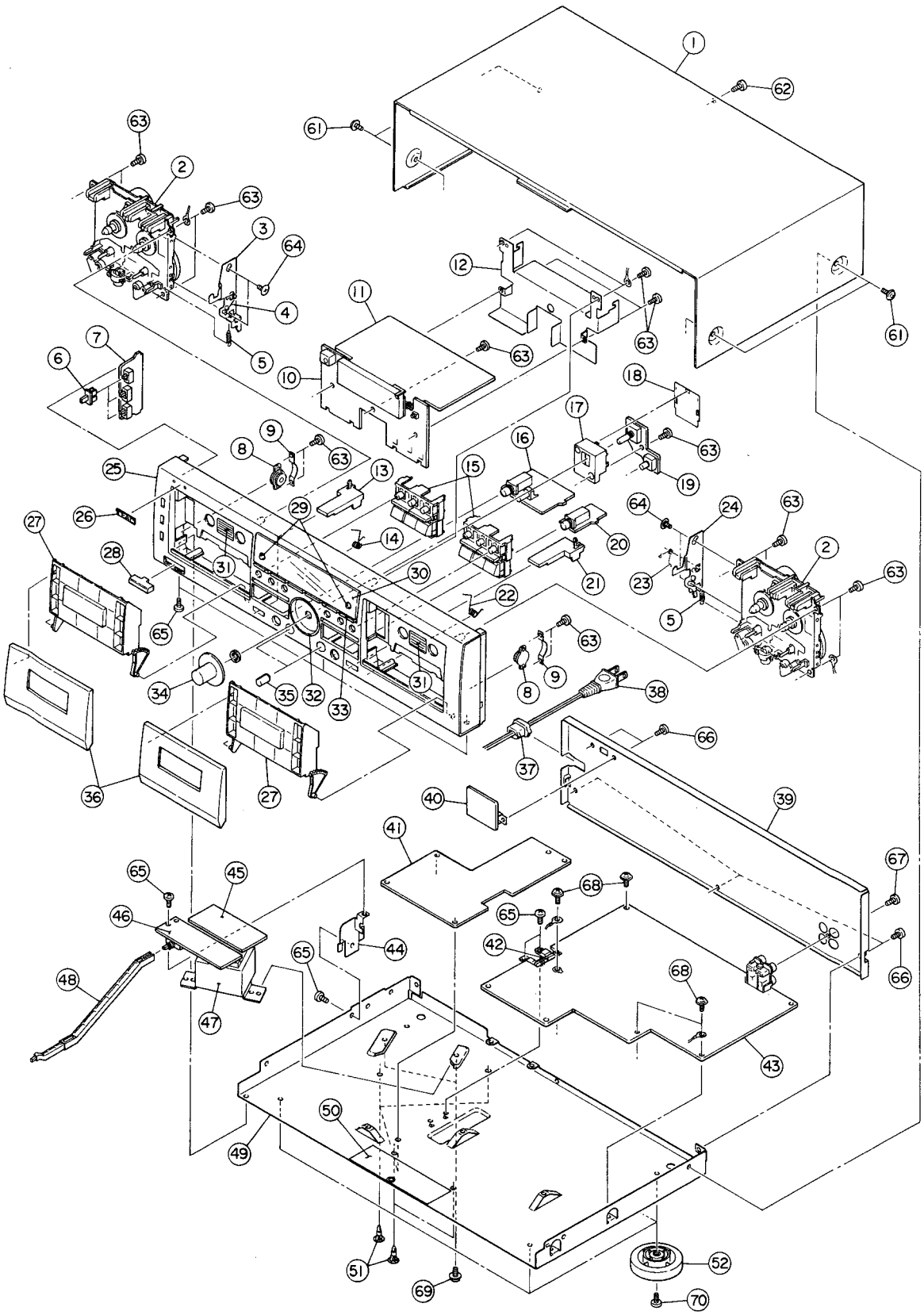



Fig. 2-5

# 3 EXPLODED VIEWS AND PARTS LIST

分解図とパーツリスト

**EXPLODED VIEW-1**



## EXPLODED VIEW-1

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 1- 1 | *3M0053900B | BONNET | W-860R(B) |
| | *3M0053910B | BONNET(N) | W-860R(N) |
| 1- 2 | *3M0054100A | MECH ASSY, R/P CMAL2Z094A | |
| 1- 3 | *3M0053200B | HOOK, EJECT(L) | |
| 1- 4 | *3M0054300B | SPRING, HOOK L | |
| 1- 5 | *3M0060700B | SPRING EJECT | |
| 1- 6 | 3M0053700A | KNOB, SLIDE(B) | W-860R(B) |
| | 3M0053710A | KNOB, SLIDE(N) | W-860R(N) |
| 1- 7 | *3E9513000A | PCB ASSY, SLIDE | |
| 1- 8 | 3M006100 | DAMPER, GEAR | |
| 1- 9 | *3M0060600A | DAMPER BRK | |
| 1-10 | *3E9515200A | PCB ASSY, KEY | |
| 1-11 | *3E9515300B | PCB ASSY, CONTROL | |
| 1-12 | *3M0054000A | PLATE, SHIELD | |
| 1-13 | *3M0053000B | BUTTON, EJECT L(B) | W-860R(B) |
| | *3M0053010B | BUTTON, EJECT L(N) | W-860R(N) |
| 1-14 | *3M0053300C | SPRING, L | |
| 1-15 | 3M0052700B | BUTTON, PLAY(B) | W-860R(B) |
| | 3M0052710B | BUTTON, PLAY(N) | W-860R(N) |
| 1-16 | *3E9514900B | PCB ASSY, MIC [J, US, C, SA, GE] | |
| | *3E9514940B | PCB ASSY, MIC [E, UK, A] | |
| 1-17 | *3M0056100A | BRACKET, BASE | |
| 1-18 | *3M0056000A | BRACKET, TOP | |
| 1-19 | *3E9513310A | PCB ASSY, VR | |
| 1-20 | *3E9513400A | PCB ASSY, PHONE | |
| 1-21 | *3M0053100B | BUTTON, EJECT R(B) | W-860R(B) |
| | *3M0053110B | BUTTON, EJECT R(N) | W-860R(N) |
| 1-22 | *3M0053400C | SPRING, R | |
| 1-23 | *3M0054400B | SPRING, HOOK R | |
| 1-24 | *3M0055300B | HOOK, EJECT(R) | |
| 1-25 | *3M0052110B | PANEL, FRONT | W-860R(B) |
| | *3M0052120B | PANEL, FRONT | W-860R(N) |
| 1-26 | *3M0051600A | TEAC EMBLEM(GOLD) | W-860R(B) |
| | *3M0051610A | TEAC EMBLEM | W-860R(N) |
| 1-27 | *3M0052300B | LEAD | |
| 1-28 | 3M0054900A | BUTTON, PWR(B) | W-860R(B) |
| | 3M0054910A | BUTTON, PWR(N) | W-860R(N) |
| 1-29 | *3M0052600A | BUTTON, CLEAR(B) | W-860R(B) |
| | *3M0052610A | BUTTON, CLEAR(N) | W-860R(N) |
| 1-30 | *3M0052410A | COVER, WINDOW | W-860R(B) |
| | *3M0052420A | COVER, WINDOW | W-860R(N) |
| 1-31 | *3M0062400A | PLATE, REFLECT | |
| 1-32 | *3M0055000B | RING | |
| 1-33 | *3M0052500B | BUTTON, WINDOW(B) | W-860R(B) |
| | *3M0052510B | BUTTON, WINDOW(N) | W-860R(N) |
| 1-34 | 3M0052800C | KNOB, R(B) | W-860R(B) |
| | 3M0052810C | KNOB, R(N) | W-860R(N) |
| 1-35 | 3M0052900A | KNOB, M(B) | W-860R(B) |
| | 3M0052910A | KNOB, M(N) | W-860R(N) |
| 1-36 | 3M0052200B | DOOR, LEAD(B) | W-860R(B) |
| | 3M0052210B | DOOR, LEAD(N) | W-860R(N) |
| 1-37 | ⚠ *3M000880 | BUSHING, #2271 | |

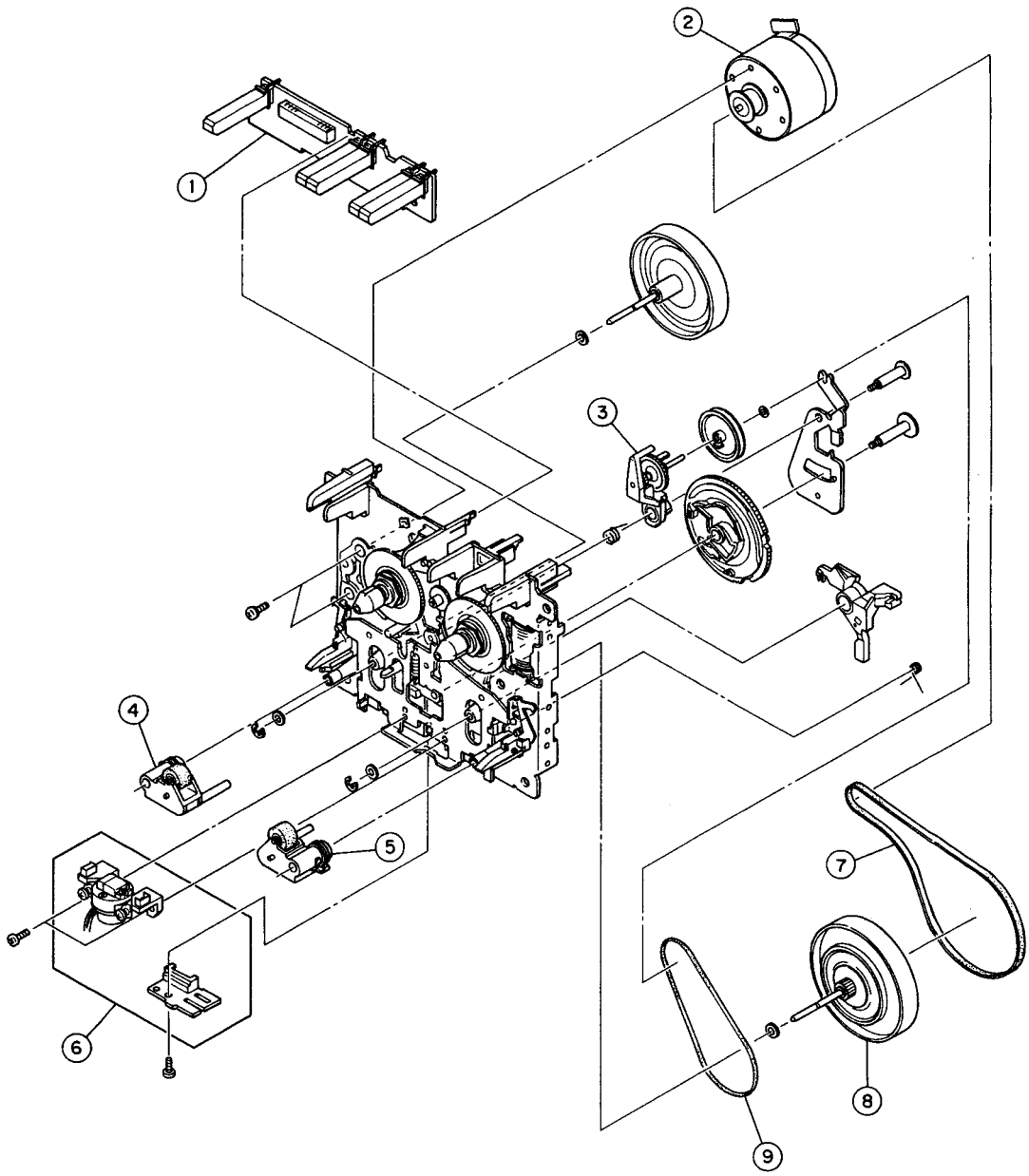
## EXPLODED VIEW-1

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 1-38 | ⚠ *3E000320 | POWER CORD [US, C, SA] | |
| | ⚠ *3E000330 | POWER CORD [GE] | |
| | ⚠ *3E000340 | POWER CORD [E] | |
| | ⚠ *3E000350 | POWER CORD [UK] | |
| | ⚠ *3E000360 | POWER CORD [A] | |
| | ⚠ *3E002120 | POWER CORD [J] | |
| 1-39 | *3M0053800A | PANEL, REAR [J, E, UK, A] | |
| | *3M0053810A | PANEL, REAR [US, C, SA, GE] | |
| 1-40 | *3E9515400A | PCB ASSY, SELECTOR SW [US, C, SA, GE] | |
| 1-41 | *3E9514800A | PCB ASSY, REC AMP | |
| 1-42 | *3E9512900A | PCB ASSY, TR | |
| 1-43 | *3E9515100C | PCB ASSY, MAIN | |
| 1-44 | *3M0016400A | BRACKET, LINKAGE | |
| 1-45 | *3E9513500A | PCB ASSY, TRANS A [J] | |
| | *3E9513513A | PCB ASSY, TRANS A [US, C, SA, GE] | |
| | *3E9513540A | PCB ASSY, TRANS A [E, UK, A] | |
| 1-46 | *3E9513600B | PCB ASSY, TRANS B [J, US, C, SA, GE] | |
| | *3E9513650B | PCB ASSY, TRANS B [E, UK, A] | |
| 1-47 | ⚠ 3E0075800A | TRANS, ALL W0020B | |
| 1-48 | *3M0053600B | LINKAGE, POWER | |
| 1-49 | *3M0010830A | MAIN CHASSIS | |
| 1-50 | *3M0062000A | INSULATE SHEET | |
| 1-51 | *3M003070 | SUPPORT, PCB SCB-8 | |
| 1-52 | *3M0009400A | FOOT ASSY, 56 (SILVER) | |
| —— | *3E002730 | FER. CORE, K5AT 13X7X5 [E, UK, A] | |
| 1-61 | *3B0001806A | SCREW, J, S M3X6 (BLK) | |
| 1-62 | *3B0003808A | SCREW, VPC M3X8 (BLK) | |
| 1-63 | *3B0000808A | SCREW, BPP M3X8 | |
| 1-64 | *3B0006700A | SCREW, 2.6X4.5 | |
| 1-65 | *3B0000106A | SCREW, BPS M3X6 | |
| 1-66 | *3B0004406A | SCREW, BPS M3X6 (BLK) | |
| 1-67 | *3B0004808A | SCREW, BPP M3X8 (BLK) | |
| 1-68 | *3B0001306A | SCREW, J, S M3X6 | |
| 1-69 | *3B0004208A | SCREW, BPAW M4X8 | |
| 1-70 | *3B0000108A | SCREW, BPS M3X8 | |

## INCLUDED ACCESSORIES

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| | *3D0021500B | OWNER'S MANUAL (J) [J] | |
| | *3D0021600B | OWNER'S MANUAL (E/F) [US, C, SA, UK, A] | |
| | *3D0021700B | OWNER'S MANUAL (E/F/G/I/S/D) [GE, E] | |
| | *3E000380 | PIN CORD | |
| | *3E0070300A | REMOTE CONTROL UNIT, RC-615 [J, GE, E, UK, A] | |
| | *3E003660 | BATTERY, UM-3 (2P X ED) [J, GE, E, UK, A] | |

## EXPLODED VIEW-2




### EXPLODED VIEW-2 (CMAL2Z094A)

| REF. NO. | PARTS NO. | DESCRIPTION | REMARKS |
|---|---|---|---|
| 2- 1 | 9A07387600 | PCB CONTROL BLK | |
| 2- 2 | 3M002870 | MTR MAIN BLK | |
| 2- 3 | 9A07387700 | CLUTCH ASSY BLK | |
| 2- 4 | 3M002930 | ROLLER PINCH BLK L | |
| 2- 5 | 3M002920 | ROLLER PINCH BLK R | |
| 2- 6 | 9A07387400 | PLATE HD BLK | |
| 2- 7 | 3M002950 | BELT MAIN | |
| 2- 8 | 3M002910 | CLUTCH ASSY BLK(B) | |
| 2- 9 | 3M002940 | F/R BELT | |

# 4 PC BOARDS AND PARTS LIST

基板図とパーツリスト

## MAIN PCB ASSY

| REF. NO. | | PARTS NO. | DESCRIPTION |
|---|---|---|---|
| | | *3E9515100C | PCB ASSY, MAIN |
| | | *3E9015100C | PCB, MAIN |
| C320 | ⚠ | 3C001270 | CE, 25V 4700UF M |
| C321 | ⚠ | 3C001140 | CE, 16V 2200UF M |
| C322 | ⚠ | 3C001140 | CE, 16V 2200UF M |
| D1 | | 3S000190 | LED, LH2041 (RED) |
| D24-29 | ⚠ | 3S000031 | DIODE, 1N4003-TR |
| D101, 201 | | 3S000241 | DIODE, 1SS133 |
| D301-305 | | 3S000241 | DIODE, 1SS133 |
| D307 | | 3S000031 | DIODE, 1N4003-TR |
| D308, 309 | | 3S000241 | DIODE, 1SS133 |
| D313 | | 3S001811 | ZDI, MTZJ4.7C |
| GND7 | | 3E0043200A | TERMINAL, EARTH PLATE B |
| J32 | | 3E0064100A | JACK, RCA 4P RJ-1073-09 |
| L101, 201 | | 3E002100 | FILTER, LOW PASS MPX |
| L102, 202 | | 3E002051 | COIL, 22MH EC46-223K-T2 |
| L103, 203 | | 3E002180 | COIL, STEP UP |
| L301 | | 3E007790 | COIL, BIAS SM-10F |
| L302, 303 | | 3E004411 | COIL, 220UH EC36-221K-T5 |
| P304 | | 3E000690 | CONNECT PLUG 5P, B5B-PH-K |
| P305, 306 | | 3E000670 | CONNECT PLUG 3P, B3B-PH-K |
| P307 | | 3E000760 | CONNECT PLUG 12P, B12B-PH-K |
| P308, 309 | | 3E000730 | CONNECT PLUG 9P, B9B-PH-K |
| P312 | | 3E000700 | CONNECT PLUG 6P, B6B-PH-K |
| P313 | | 3E000720 | CONNECT PLUG 8P, B8B-PH-K |
| Q101, 201 | | 3S000000 | TR, 2SC1815GR |
| Q102, 202 | | 3S000000 | TR, 2SC1815GR |
| Q103, 203 | | 3S000410 | TR, 2SC2240GR |
| Q105, 205 | | 3S000410 | TR, 2SC2240GR |
| Q301 | | 3S000020 | TR, 2SA1015GR |
| Q302, 303 | | 3S000000 | TR, 2SC1815GR |
| Q304, 305 | | 3S000410 | TR, 2SC2240GR |
| Q306 | | 3S000020 | TR, 2SA1015GR |
| R11, 21 | | 3R004590 | VR, SEMI-FIXED RH0615-10K |
| R12, 22 | | 3R004590 | VR, SEMI-FIXED RH0615-10K |
| R13, 23 | | 3R004600 | VR, SEMI-FIXED RH0615-22K |
| R14, 24 | | 3R004590 | VR, SEMI-FIXED RH0615-10K |
| U101, 201 | | 3S000291 | TR, DTC124ES |
| U301 | | 3S000280 | IC, UPC4570C |
| U302 | | 3S000430 | IC, BU4066BC |
| U303 | | 3S000280 | IC, UPC4570C |
| U304 | | 3S000430 | IC, BU4066BC |
| U305 | | 3S000360 | IC, CXA1561S |
| U306 | | 3S000430 | IC, BU4066BC |
| U307 | | 3S000260 | IC, NJM4558D |
| U308 | | 3S001530 | IC, CXA1598S |
| U309 | | 3S000560 | IC, TC4051BP |
| U310 | | 3S000270 | IC, UPC1297CA |
| U312 | | 3S000260 | IC, NJM4558D |
| U321, 322 | | 3S000291 | TR, DTC124ES |

## MAIN PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| U324-326 | 3S000291 | TR, DTC124ES |
| U327-337 | 3S000301 | TR, DTA124ES |
| U339, 340 | 3S000291 | TR, DTC124ES |
| U341, 342 | 3S000301 | TR, DTA124ES |
| U343 | 3S000291 | TR, DTC124ES |
| U345, 346 | 3S000301 | TR, DTA124ES |
| U347-349 | 3S000291 | TR, DTC124ES |

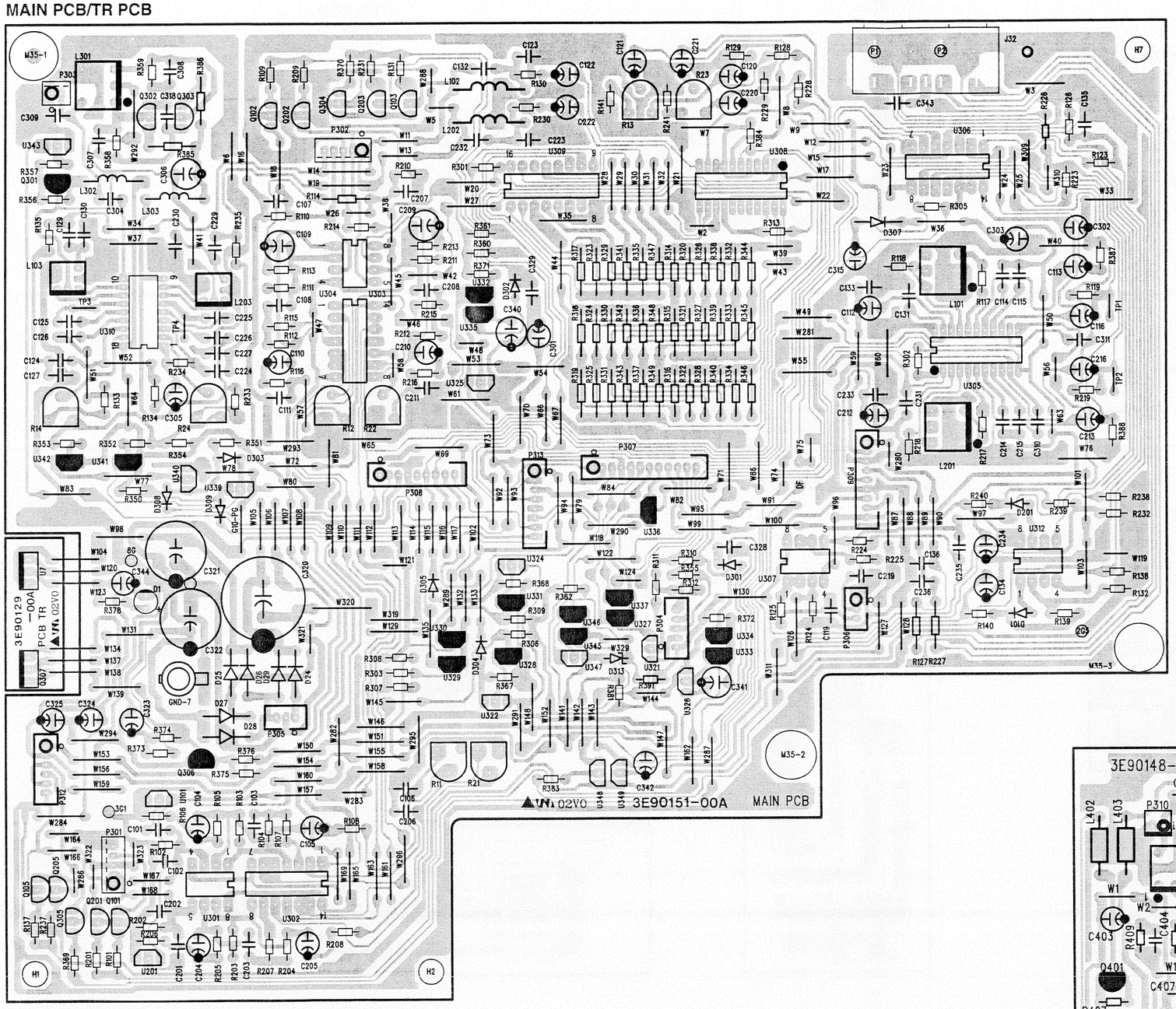
## TR PCB ASSY

| REF. NO. | | PARTS NO. | DESCRIPTION |
|---|---|---|---|
| | | *3E9512900A | PCB ASSY, TR |
| | | *3E9012900A | PCB, TR |
| Q307 | ⚠ | 3S000820 | TR, 2SB1655E |
| U7 | ⚠ | 3S000650 | IC, NJM7805FA |

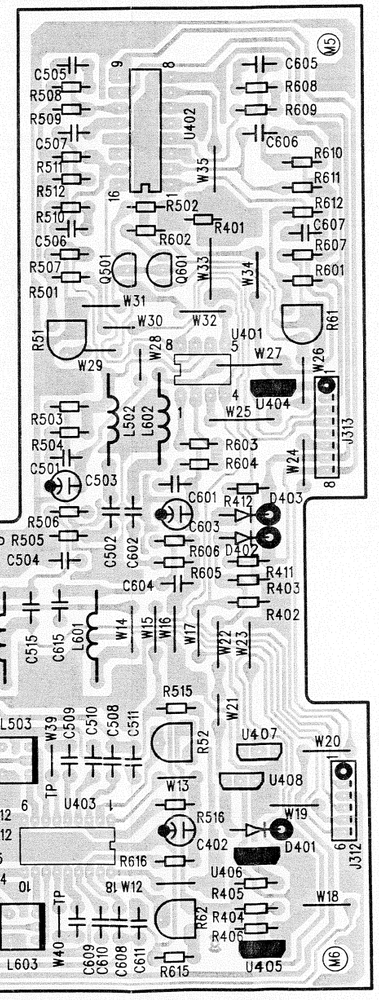
## REC AMP PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | *3E9514800A | PCB ASSY, REC AMP |
| | *3E9014800A | PCB, REC AMP |
| D401-403 | 3S000241 | DIODE, 1SS133 |
| L401 | 3E007790 | COIL, BIAS SM-10F |
| L402, 403 | 3E004411 | COIL, 220UH EC36-221K-T5 |
| L501, 601 | 3E002051 | COIL, 22MH EC46-223K-T2 |
| L502, 602 | 3E004421 | COIL, 8.2MH EC46-822J-T5 |
| L503, 603 | 3E002180 | COIL, STEP UP |
| P310 | 3E000660 | CONNECT PLUG 2P, B2B-PH-K |
| Q401 | 3S000020 | TR, 2SA1015GR |
| Q402, 403 | 3S000000 | TR, 2SC1815GR |
| Q501, 601 | 3S000731 | TR, 2SD2144S |
| R51, 61 | 3R004600 | VR, SEMI-FIXED RH0615-22K |
| R52, 62 | 3R004590 | VR, SEMI-FIXED RH0615-10K |
| U401 | 3S000260 | IC, NJM4558D |
| U402 | 3S000470 | IC, TC4052BP |
| U403 | 3S000270 | IC, UPC1297CA |
| U404-406 | 3S000301 | TR, DTA124ES |
| U407-409 | 3S000291 | TR, DTC124ES |

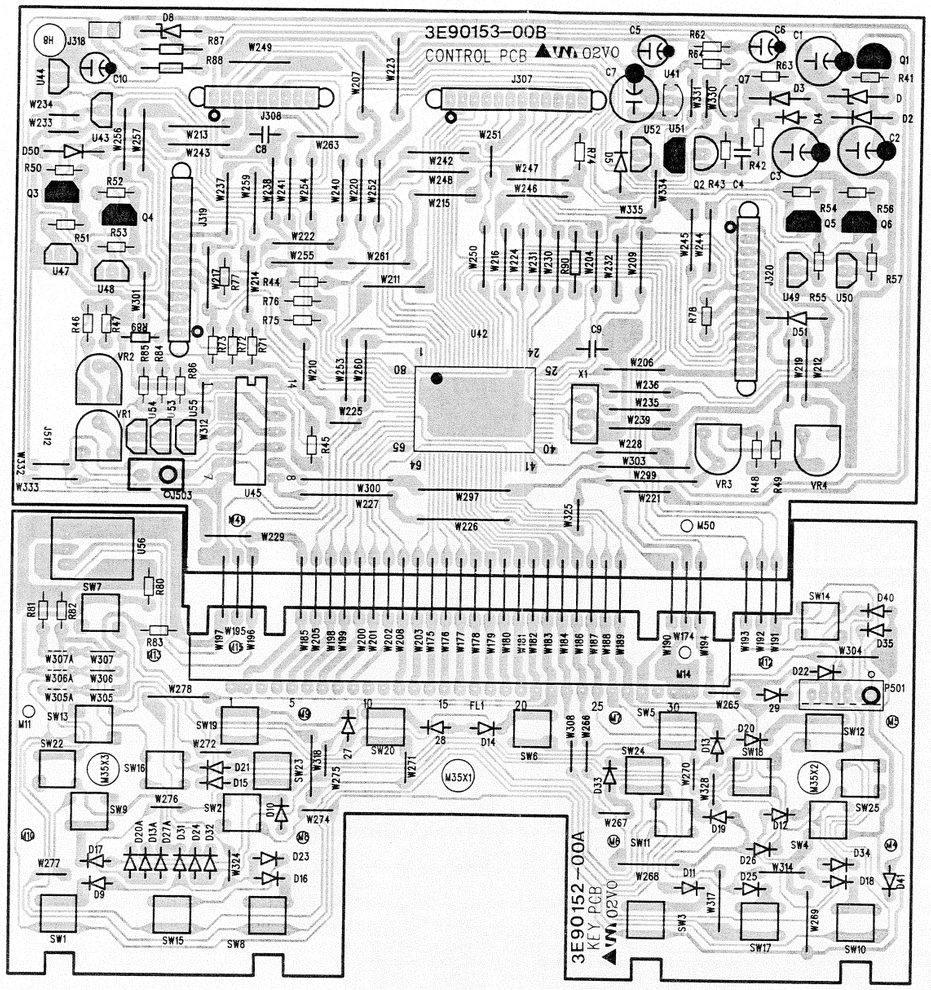
MAIN PCB/TR PCB



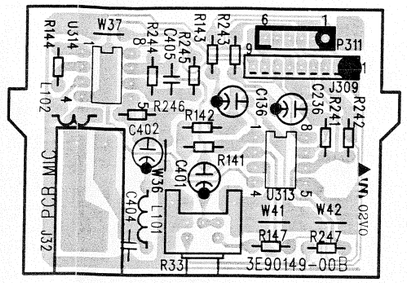

REC AMP PCB



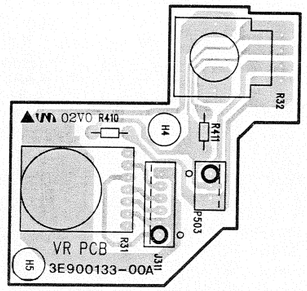
## CONTROL PCB/KEY PCB



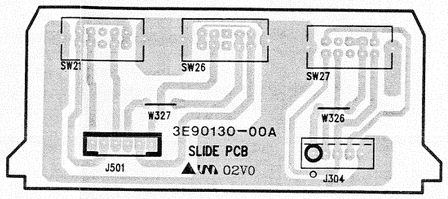

## MIC PCB



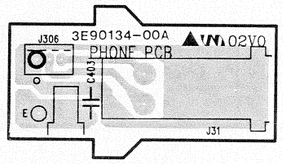

## VR PCB



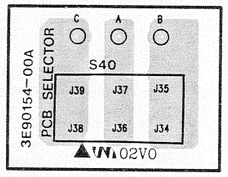

## SLIDE PCB



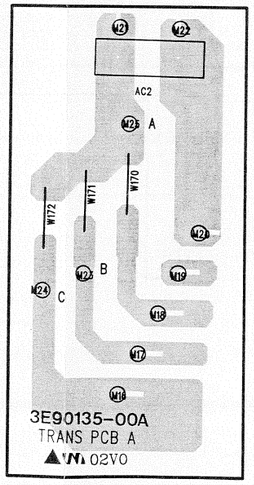

## PHONE PCB



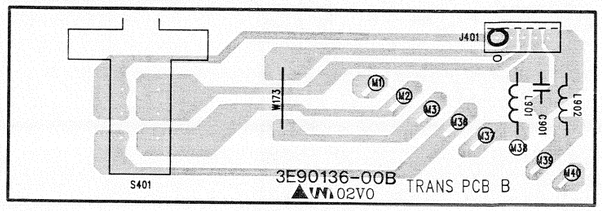

## SELECTOR SW PCB

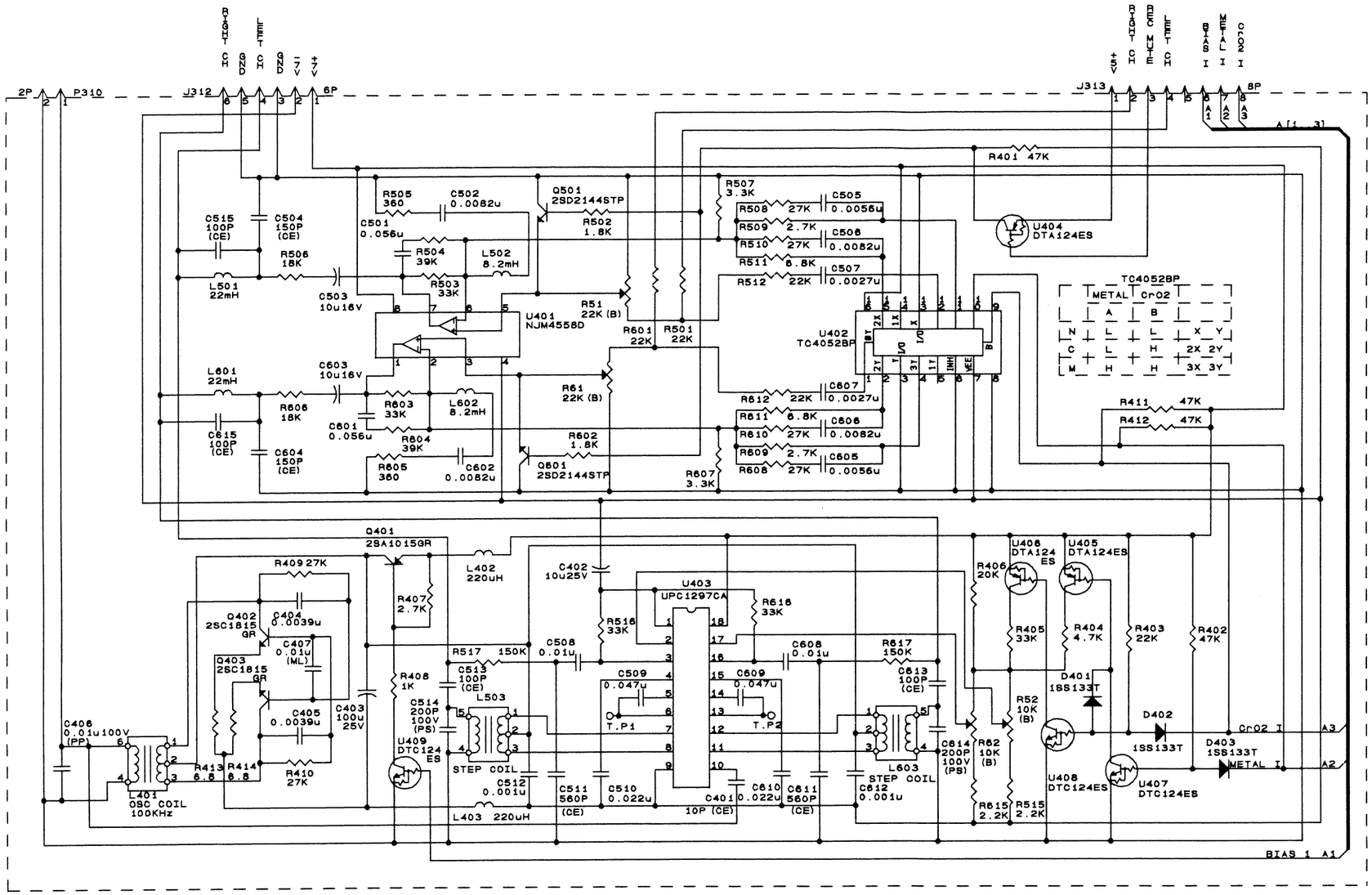



## TRANS A PCB




## TRANS B PCB



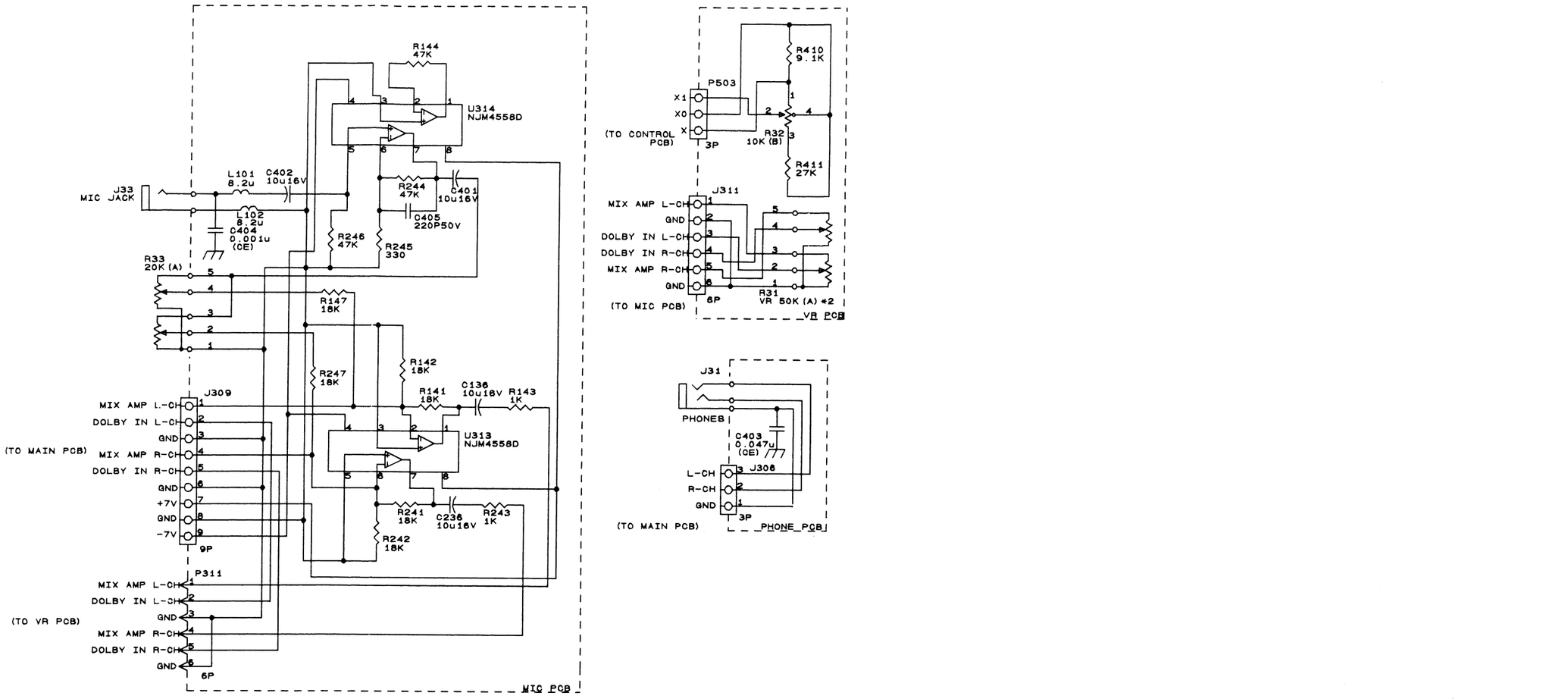



**INSTRUCTIONS FOR SERVICE PERSONNEL**
**BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.**

**NOTES:**
1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. ⚠Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

**注 意**
1. 抵抗の単位はΩ（k＝kΩ、M＝MΩ）です。
2. コンデンサの単位はμF（p＝pF）です。
3. ⚠マークのある部品は安全規格重要部品です。交換するときは必ずティアック指定の部品を使用してください。

# W-860R
## Double Cassette Deck
1 st Issue; April 1999



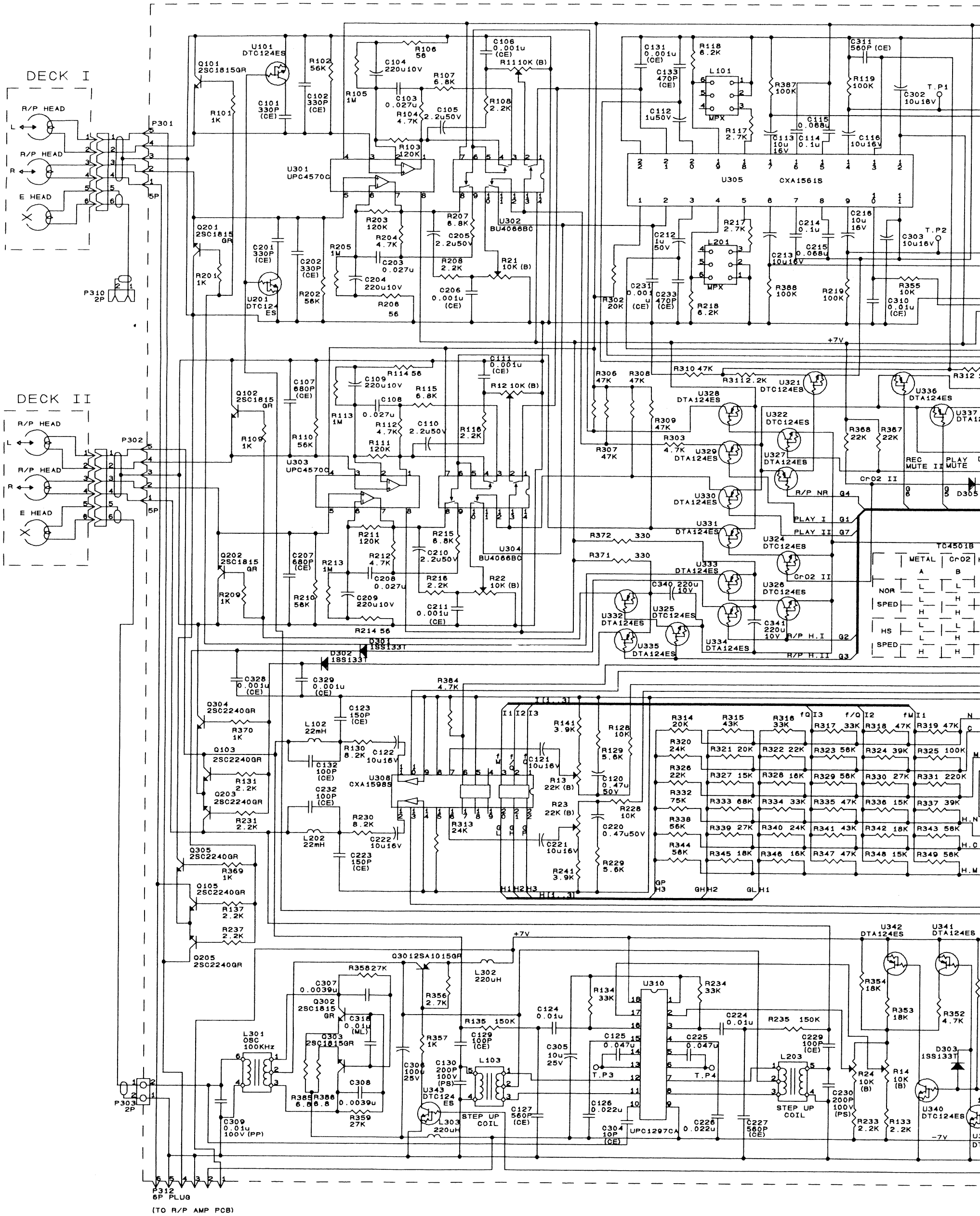

**INSTRUCTIONS FOR SERVICE PERSONNEL**
**BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.**

**注 意**
1. 抵抗の単位はΩ（k＝kΩ、M＝MΩ）です。
2. コンデンサの単位はμF（p＝pF）です。
3. △マークのある部品は安全規格重要部品です。交換するときは必ずティアック指定の部品を使用してください。

**NOTES:**
1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. △Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

# W-860R
## Double Cassette Deck
1 st Issue; April 1999

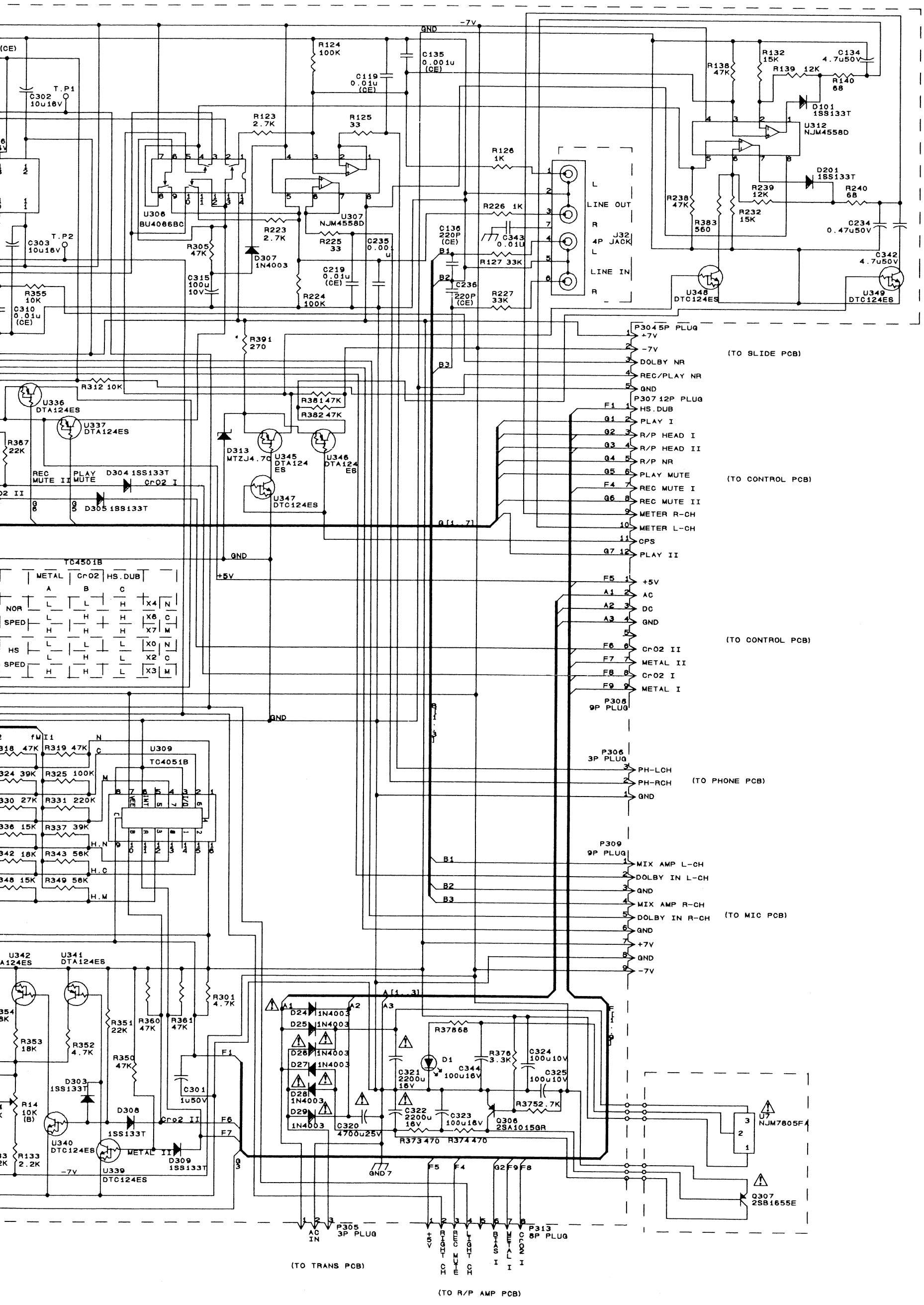
# TEAC SCHEMATIC DIAGRAM W-860R MAIN PCB




**INSTRUCTIONS FOR SERVICE PERSONNEL**
**BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.**

**NOTES:**
1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. ⚠Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

**注 意**
1. 抵抗の単位はΩ(k＝kΩ, M＝MΩ)です。
2. コンデンサの単位はμF(p＝pF)です。
3. ⚠マークのある部品は安全規格重要部品です。交換するときは必ずティアック指定の部品を使用してください。

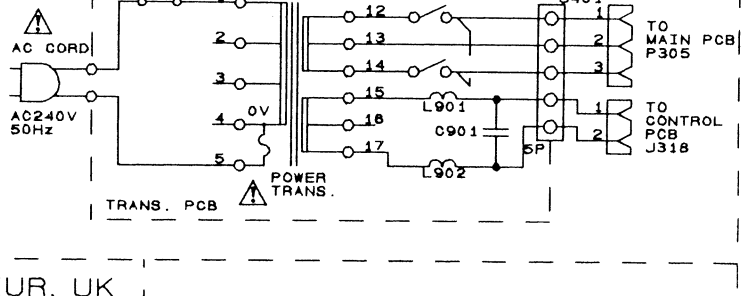



# W-860R

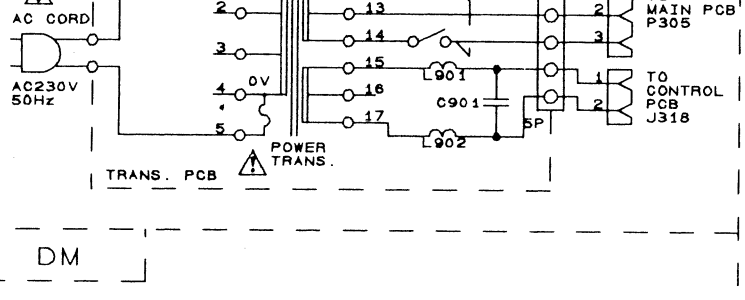
## Double Cassette Deck

1 st Issue; April 1999

AUS



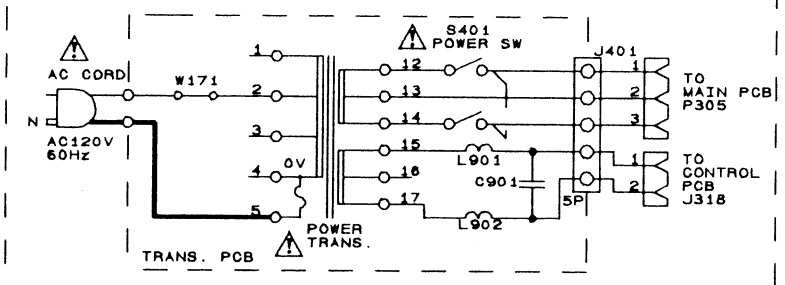

EUR, UK



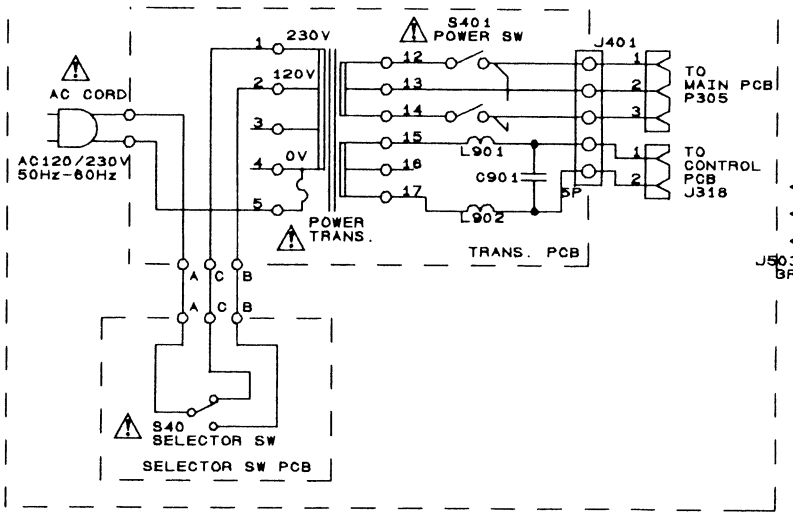

DM



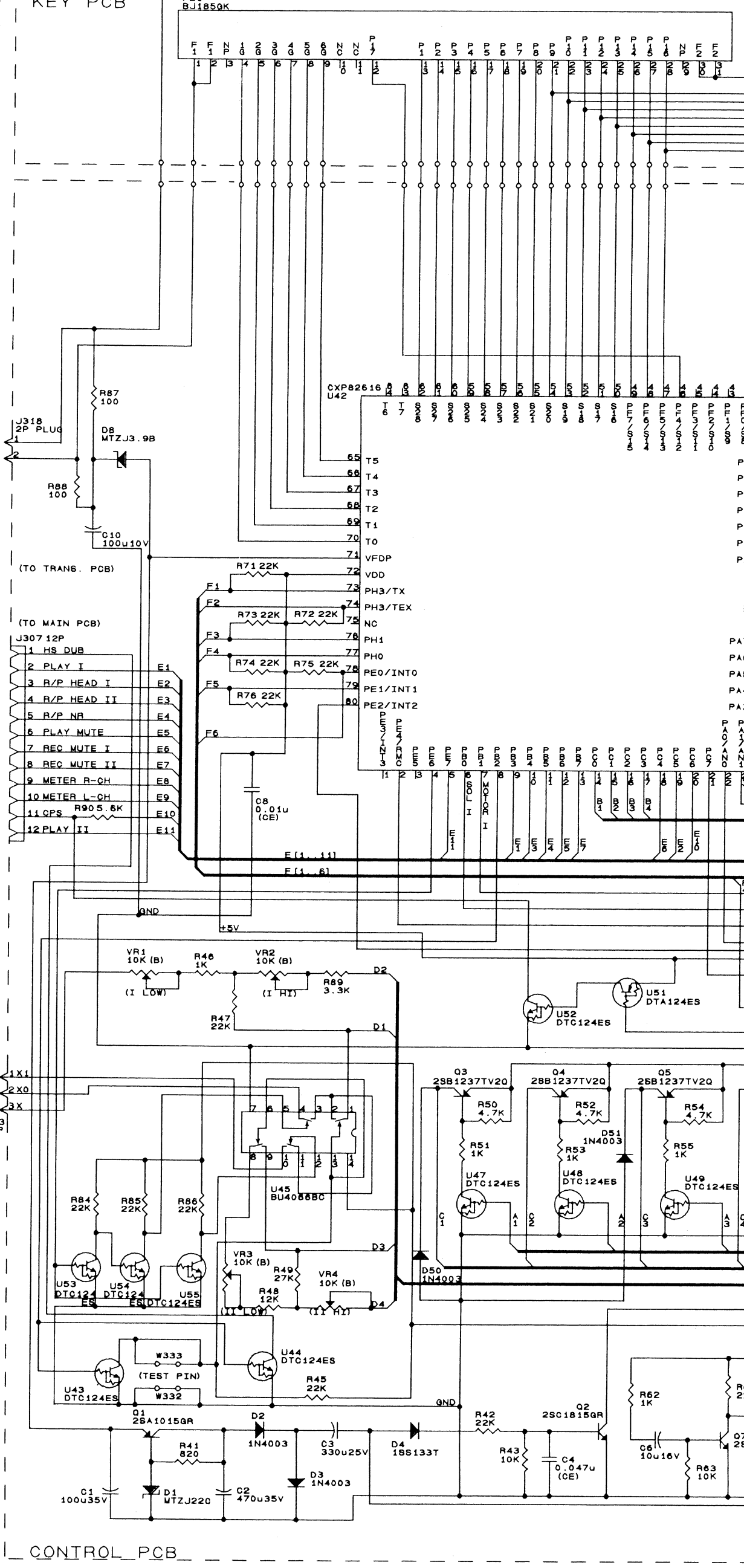

UL, CND




EX




KEY PCB

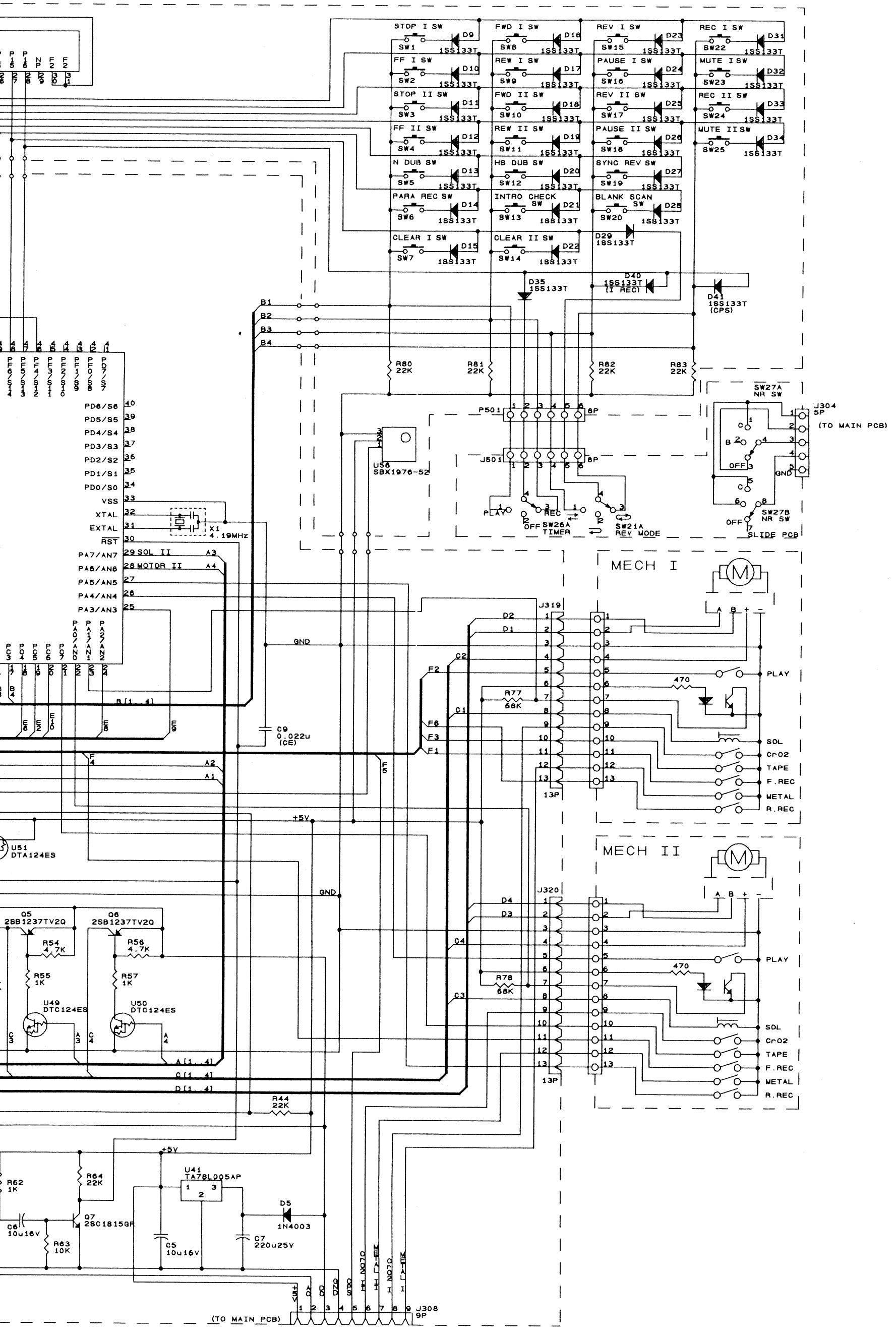



CONTROL PCB

**INSTRUCTIONS FOR SERVICE PERSONNEL**
**BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.**

**注 意**
1. 抵抗の単位はΩ(k＝kΩ, M＝MΩ)です。
2. コンデンサの単位はμF(p＝pF)です。
3. ⚠マークのある部品は安全規格重要部品です。交換するときは必ずティアック指定の部品を使用してください。

**NOTES:**
1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. ⚠Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.




# W-860R

## Double Cassette Deck

1 st Issue; April 1999

## CONTROL PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | * 3E9515300B | PCB ASSY, CONTROL |
| | * 3E9015300B | PCB, CONTROL |
| D1 | 3S001801 | ZDI, MTZJ22C |
| D2, 3 | 3S000031 | DIODE, 1N4003-TR |
| D4 | 3S000241 | DIODE, 1SS133 |
| D5 | 3S000031 | DIODE, 1N4003-TR |
| D8 | 3S001521 | ZDI, MTZ3.9B |
| D50, 51 | 3S000031 | DIODE, 1N4003-TR |
| J318 | 3E000660 | CONNECT PLUG 2P, B2B-PH-K |
| J503 | 3E000670 | CONNECT PLUG 3P, B3B-PH-K |
| Q1 | 3S000020 | TR, 2SA1015GR |
| Q2 | 3S000000 | TR, 2SC1815GR |
| Q3-6 | 3S000320 | TR, 2SA1237TV2Q |
| Q7 | 3S000000 | TR, 2SC1815GR |
| U41 | 3S000380 | IC, TA78L005AP |
| U42 | 3S0017600B | IC, CXP82616-XXXX |
| U43, 44 | 3S000291 | TR, DTC124ES |
| U45 | 3S000430 | IC, BU4066BC |
| U47-55 | 3S000291 | TR, DTC124ES |
| VR1-4 | 3R004590 | VR, SEMI-FIXED RH0615-10K |
| X1 | 3E005480 | RESONATOR, CERAMIC 4.19MHZ |

## KEY PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | * 3E9515200A | PCB ASSY, KEY |
| | * 3E9015200A | PCB, KEY |
| | * 3M0060400A | FOLDER FL(L) |
| | * 3M0060500A | FOLDER FL(R) |
| D9-29 | 3S000241 | DIODE, 1SS133 |
| D31-35 | 3S000241 | DIODE, 1SS133 |
| D40, 41 | 3S000241 | DIODE, 1SS133 |
| FL1 | 3M0014900A | FL DISPLAY, BJ-185GK |
| SW1-20 | 3E002070 | SW, TACT SKQSAB HMR-187 |
| SW22-25 | 3E002070 | SW, TACT SKQSAB HMR-187 |
| U56 | 3S000760 | REMOCON. SENSOR, SBX1976-52 |

## MIC PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | * 3E9514900B | PCB ASSY, MIC [J, US, C, SA, GE] |
| | * 3E9514940B | PCB ASSY, MIC [E, UK, A] |
| | * 3E9014900A | PCB, MIC |
| J33 | 3E008550 | JACK, MIC JY-6317-01-130G |
| L101, 102 | 3E009040 | COIL, 8.2UH EC24-8R2K[E, UK, A] |
| P311 | 3E000700 | CONNECT PLUG 6P, B6B-PH-K |
| R33 | 3R004360 | VAR RES, RK09K12A0001-TK |
| U313, 314 | 3S000260 | IC, NJM4558D |

## VR PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | * 3E9513310A | PCB ASSY, VR |
| | * 3E9013310A | PCB, VR |
| R31 | 3R004510 | VAR RES, RK14K12D 50KAX2 |
| R32 | 3R004880 | VAR RES, RK11K1130 10KB |

## SLIDE PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | * 3E9513000A | PCB ASSY, SLIDE |
| | * 3E9013000A | PCB, SLIDE |
| J501 | 3E000700 | CONNECT PLUG 6P, B6B-PH-K |
| SW21 | 3E006380 | SW, SLIDE AXA 2-3 |
| SW26, 27 | 3E006380 | SW, SLIDE AXA 2-3 |

## PHONE PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | * 3E9513400A | PCB ASSY, PHONE |
| | * 3E9013400A | PCB, PHONE |
| J31 | 3E006360 | JACK, JY-6317-01-030G |

## SELECTOR SW PCB ASSY

| REF. NO. | | PARTS NO. | DESCRIPTION |
|---|---|---|---|
| | | * 3E9515400A | PCB ASSY, SELECTOR SW [US, C, SA, GE] |
| | | * 3E9015400A | PCB, SELECTOR SW |
| S40 | ⚠ | 3E002110 | SW, SLIDE SL13B-022 |

## TRANS A PCB ASSY

| REF. NO. | PARTS NO. | DESCRIPTION |
|---|---|---|
| | * 3E9513500A | PCB ASSY, TRANS A [J] |
| | * 3E9513513A | PCB ASSY, TRANS A[US, C, SA, GE] |
| | * 3E9513540A | PCB ASSY, TRANS A [E, UK, A] |
| | * 3E9013500A | PCB, TRANS A |
| AC2 | 3E002170 | TERMINAL LAPPING 2P[E, UK, A] |

## TRANS B PCB ASSY

| REF. NO. | | PARTS NO. | DESCRIPTION |
|---|---|---|---|
| | | * 3E9513600B | PCB ASSY, TRANS B [J, US, C, SA, GE] |
| | | * 3E9513650B | PCB ASSY, TRANS B [E, UK, A] |
| | | * 3E9013600B | PCB, TRANS B |
| S401 | ⚠ | 3E002060 | SW, PUSH SPUN 12 |

# W-860R

# TEAC


## ティアック株式会社

| | | | |
|---|---|---|---|
| | 営業部 | ☎ (0422)52-5073 | 〒180-8550 東京都武蔵野市中町3-7-3 |
| 技術的なお問い合わせ | AV技術相談室 | ☎ (0422)36-2210 | 〒180-8550 東京都武蔵野市中町3-7-3 |
| アフター・サービスに関するお問い合わせ | 札幌営業所 | ☎ (011)521-4101 (代) | 〒064-0807 札幌市中央区南7条西2-2 くぼたビル |
| | 仙台営業所 | ☎ (022)227-1501 (代) | 〒980-0811 仙台市青葉区1番町2-5-5 中央ビル |
| | 新潟サービス | ☎ (025)245-0103 | 〒950-0865 新潟県新潟市元馬越1-4-11 黒井ハイツ |
| | 大宮サービス | ☎ (048)642-4551 | 〒331-0052 大宮市三橋2-846 |
| | 多摩サービス | ☎ (0422)52-5102 | 〒180-8550 東京都武蔵野市中町3-7-3 |
| | 東京サービス | ☎ (03)3592-1827 | 〒100-0014 東京都千代田区永田町2-10-7 星ガ岡会館 |
| | 千葉サービス | ☎ (043)255-1281 | 〒260-0042 千葉市中央区椿森1-21-13 清水ビル |
| | 神奈川サービス | ☎ (042)746-6850 | 〒228-0803 相模原市相模大野7-14-9 グリーンシティビル |
| | 静岡サービス | ☎ (054)238-2431 | 〒422-8034 静岡市高松1-12-1 寿道ハイツ105号 |
| | 名古屋営業所 | ☎ (052)702-3100 (代) | 〒465-0025 名古屋市名東区上社5-406 |
| | 京都サービス | ☎ (075)871-8730 | 〒616-8224 京都市右京区常盤窪町19 西垣ビル |
| | 大阪営業所 | ☎ (06)6384-5201 (代) | 〒564-0062 吹田市垂水町3-34-10 |
| | 兵庫サービス | ☎ (0727)55-1002 | 〒666-0004 兵庫県川西市萩原1-11-29 |
| | 岡山サービス | ☎ (0862)25-8601 | 〒700-0945 岡山市新保1142-6 |
| | 広島営業所 | ☎ (082)294-4751 (代) | 〒730-0846 広島市中区西川口町13-19 |
| | 福岡営業所 | ☎ (092)431-5781 (代) | 〒812-0008 福岡市博多区東光2-2-24 |
| | 福岡サービス | ☎ (092)936-5672 | 〒811-2202 福岡県粕屋郡志免町志免1041 |

| | | |
|---|---|---|
| **TEAC CORPORATION** | 3-7-3, Nakacho, Musashino-shi, Tokyo 180-8550, Japan | Phone: (0422) 52-5081 |
| TEAC AMERICA, INC. | 7733 Telegraph Road, Montebello, California 90640 | Phone: (213) 726-0303 |
| TEAC CANADA LTD. | 5939 Wallace Street, Mississauga, Ontario L4Z 1Z8, Canada | Phone: 905-890-8008 |
| TEAC MEXICO, S.A. De C.V | Privada De Corina, No.18, Colonia Del Carrmen Coyoacon, Mexico DF 04100 | Phone: 5-658-1943 |
| TEAC UK LIMITED | 5 Marlin House, Marlins Meadow, The Croxley Centre, Watford, Herts. WD1 8YA, U.K. | Phone: 01923-819699 |
| TEAC DEUTSCHLAND GmbH | Bahnstrasse 12, 65205 Wiesbaden-Erbenheim, Germany | Phone: 0611-71580 |
| TEAC FRANCE S. A. | 17 Rue Alexis-de-Tocqueville, CE 005 92182 Antony Cedex, France | Phone: 01.42.37.01.02 |
| TEAC BELGIUM NV/SA | P.A. TEAC Nederland BV, Perkinsbaan 11a, 3439 ND Nieuwegein, Netherlands | Phone: 0031-30-6048115 |
| TEAC NEDERLAND BV | Perkinsbaan 11a, 3439 ND Nieuwegein, Netherlands | Phone: 030-6030229 |
| TEAC AUSTRALIA PTY., LTD. A.C.N. 005 408 462 | 106 Bay Street, Port Melbourne, Victoria 3207, Australia | Phone: (03) 9644-2442 |
| TEAC ITALIANA S.p.A. | Via C. Cantù 11, 20092 Cinisello Balsamo, Milano, Italy | Phone: 02-66010500 |


PRINTED IN JAPAN 0499SK 0.49 MA-025A